REMARKS

The May 19, 2008 Official Action and the references cited therein have been carefully reviewed. In view of the amendments presented herewith and the following remarks, favorable reconsideration and allowance of this application are respectfully requested.

It is noted that a shortened statutory response period of three (3) months was set forth in the May 19, 2008 Official Action. This response is being filed with a petition for a two month extension of time and the requisite fee under 37 C.F.R. §1.17(h).

As a preliminary matter, Applicants note that the Examiner has deemed the restriction requirement proper and has made it final. Accordingly, claims 1-11, 18-20 and 21-31 have been withdrawn from consideration and claims 12, 15-17 have been examined on the merits.

Claims 12 and 15-17 stand rejected under 35 U.S.C. §112, first paragraph as allegedly failing to satisfy the enablement requirement of the statute.

The Examiner has rejected claims 12 and 15-17 as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

At page 9 of the Official Action, the Examiner has rejected claims 12, 15 and 16 as allegedly anticipated by WO97/13859 to Devergne et al.

Claim 17 stands rejected under 35 U.S.C. §103(a) as allegedly obvious over the disclosure in Devergne et al.

New claims 31-40 are presented herewith which do not introduce new matter into the specification. Support for the new claims can be found in original claims 2-10.

The foregoing rejections constitute all of the grounds set

forth in the May 19, 2008 Official Action for refusing the present application. These rejections are traversed for the reasons set forth below.

THE SUBJECT MATTER ENCOMPASSED BY THE CLAIMS IS FULLY ENABLED BY THE DISCLOSURE IN THE SPECIFICATION

The Examiner has rejected claims 12, and 15-17 under 35 U.S.C. §112, first paragraph asserting that the "specification fails to provide any guidance for the successful treatment of all other possible conditions requiring enhanced regulatory T cell activity."

Applicants respectfully disagree with the Examiner's position for at least the following reasons. At several points in the Official Action (e.g., page 6, line 5), the Examiner contends that "The specification does not describe treatment of any other condition other than the treatment of rheumatoid arthritis by administering EBI3-p35 cytokine…." This assertion is erroneous on its face. Not only does the specification exemplify treatment of arthritis using the compositions of the invention. At page 27, line 24 over to page 28, line 27, the inventors provide data which indicate that EBI3-35 reduces markers of airway hypersensitivity (cellular infiltrates into bronchial alveolar lavage, eosinophilia, antigen-specific serum IgE, and IL-4 in bronchial alveolar lavage fluid) in an animal model of asthma. See Figure 9. Thus the application provides evidence that EBI3-p35 is effective to modulate the immune response in two rather different conditions (arthritis and asthma), whose pathogenesis shares a very significant involvement of regulatory T cell activity.

In In re Wands, 8 USPQ2d 1400 (1988), the Federal Circuit Court of Appeals held that engaging in experimentation to

practice a claimed invention does not render the disclosure non-enabling as long as the experimentation required is not "undue". The Court stated that: "The determination of what constitutes undue experimentation in a given case requires the application of a standard of reasonableness . . . The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed." In re Wands, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

In the present case, the experimentation necessary is merely routine and is inherent in the nature of the art. Therefore, there is no undue burden of experimentation. The level of skill in the art of inflammatory disease treatment and the administration of therapeutically effective cytokines is quite high, and the required techniques are familiar to those skilled in this art area.

At the priority date, the skilled reader would have been well aware that regulatory T cell actions inhibit a wide variety of adverse or pathological immune responses. For example, the application clearly explains that regulatory T cells have been shown to suppress arthritis (CIA), asthma, gastritis, inflammatory bowel disease, and allograft rejection (page 27; see the reviews by Sakaguchi et al., 2001 and Shevach, 2000, provided in the IDS) as well as atherosclerosis (page 16 line 18-20; see Mallett et al., 2003, provided in the IDS) and graft rejection (page 16 lines 23 to 26). Pages 15 and 16 of the application also explain that depletion of regulatory T cells (or impairment of their activity) has been shown to result in diseases including arthritis (e.g. rheumatoid arthritis), inflammatory bowel disease, gastritis, pernicious anaemia, thyroiditis, insulitis, diabetes, sialoadenitis, adrenalitis, autoimmune

orchitis/oophoritis, glomerulonephritis, chronic obstructive pulmonary disease and experimental autoimmune encephalitis (a model of multiple sclerosis).

The present application contains experimental evidence relating to treatment of not one but two very different inflammatory conditions, thus the present rejection cannot be maintained. Given this teaching, and the information in the art concerning the activity and therapeutic abilities of regulatory T cells, the skilled reader would conclude that EBI3-p35 can be used to treat conditions in which the inflammatory immune response is implicated in disease pathogenesis. Moreover, assessing amelioration of pathological symptoms or diminution of undesirable inflammatory reactions is well within the purview of the skilled clinician.

At page 7, the Examiner asserts that a method for treating rheumatoid arthritis is very different from a method for treating multiple sclerosis. As the data provided in the specification illustrate, two very different diseases (arthritis and asthma) were successfully treated for the first time following administration of the EBI3-p35 cytokine of the invention. Applicants submit that the Examiner has not provided any reasoning to support her contention that the cytokine would not work in vivo and indeed erroneously states that "... there cannot be said to be any reasonable expectation of success at the in vivo application of a potential therapy. Again, Applicants submit that the Examiner's contention is in error given the clear teachings in the specification.

The skilled person could practice the methods encompassed by the present claims without undue experimentation. Nothing more is required under 35 U.S.C. §112, first paragraph. Accordingly, Applicants request that this rejection be withdrawn.

THE METES AND BOUNDS OF CLAIMS 15 AND 17 AS AMENDED ARE CLEAR TO ONE OF SKILL IN THE ART

The Examiner has rejected claims 12 and 15-17 as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

The relevant inquiry in determining whether a given claim satisfies the requirements of 35 U.S.C. §112, second paragraph, is whether the claim sets out and circumscribes a particular area with a reasonable degree of precision and particularity such that the metes and bounds of the claimed invention are reasonably clear. In re Moore, 169 U.S.P.Q. 236 (CCPA 1971). Applicants respectfully submit that with respect to claims 12, 15 and 17 as amended of the present application, such inquiry must be answered in the affirmative.

Specifically, the Examiner finds the term "medicament" in claim 12 unclear and would prefer the more conventional phrase "a composition comprising." In response, Applicants submit that "medicament" is a term of art in patent claims. However, in order to expedite prosecution, the claim has been amended to recite a pharmaceutical composition comprising the cytokine of the invention in a carrier.

The Examiner also contends that claim 12 is indefinite for failing to recite method steps. The claim has been amended to clearly recite a method of administering a therapeutically effective amount of a cytokine containing composition in a carrier to a patient in need thereof. Support for the amendment to claim 12 can be found at page 19, lines 8-11 and at page 20, line 8. Applicants submit that this type of method of administration claim fully complies with the requirements of 35 U.S.C. §112, second paragraph.

Claim 12 has also been amended to include the features of claim 16 which has been cancelled, thereby including a condition

to be treated as required by the Examiner.

Claim 15 has been amended to replace the term "medicament" with "composition" and to recite that the condition to be treated is an autoimmune or inflammatory condition. Specific examples of such conditions are recited in claim 17. In view of all of the foregoing amendments, any perceived ambiguity has been removed from the claims. Accordingly, Applicants request that the rejection of claims 12, 15 and 17 be withdrawn.

CLAIMS 12, 15 AND 17, AS AMENDED ARE NOVEL AND NON-OBVIOUS OVER THE DISCLOSURE IN WO 97/13859 TO DEVERGNE ET AL.

The Examiner has asserted that the aforementioned claims either lack novelty or are rendered obvious by the disclosure in Devergne et al. Applicants respectfully disagree.

Claim 12 has been amended to recite a method of administration of a therapeutically effective amount of a composition containing the EBI3/p35 cytokine to a subject in need thereof, the composition being effective to ameliorate the symptoms of an autoimmune or inflammatory condition or effective to prevent or ameliorate allograft rejection in said subject. Inasmuch as Devergne et al. never demonstrate an amelioration of an autoimmune or inflammatory condition, it cannot be said that this reference discloses an identical method.

Moreover, it is well settled that prior art under 35 U.S.C. §102(b) must sufficiently describe the claimed invention to have placed the public in possession of it. In re Sasse, 207 U.S.P.Q. 107, 11 (CCPA 1980). Accordingly, even if the claimed invention were arguably disclosed in a printed publication, that disclosure would not suffice as prior art if it were not enabling. In re Borst, 45 U.S.P.Q. 554, 557 (CCPA, 1965). In re Donohue, 226 USPQ 619, 621 (Fed. Cir. 1985).

In the first seven pages of the Official Action, the

Examiner rejected claims 12, and 15-17 asserting that the specification fails to enable the method claimed despite the presence of two discrete examples showing amelioration of autoimmune or inflammatory conditions in vivo. Applicants have refuted this rejection for the reasons set forth above. Notably, the Devergne et al. reference relied on by the Examiner does not contain a single working example demonstrating that EBI3-p35 has any effect on regulatory T cell activity. Indeed, these investigators merely speculate, that "*Based on the findings that EBI3 expression is turned on by EBV in latently infected cells which need to antagonize the effects of IL12 in increasing anti-EBV-infected cell cytotoxicity, and is naturally expressed at even higher levels in the placenta which needs to protect itself and the developing fetus from IL 12 regulated NK and CD8 cytotoxic T cell activity, it appeared possible that the EBI3/p35 heterodimer functions as a modulator of IL12 activities.*" As mentioned above, in order to constitute an anticipatory reference, the reference must place the invention in the hands of the public. As the Examiner acknowledges, it is the specification, not the knowledge of one skilled in the art that must supply the novel aspects of an invention in order to constitute adequate enablement. If the Examiner contends (incorrectly) that a single example is insufficient to enable the present claims, clearly, it cannot be reasonably maintained that the disclosure in Devergne et al. who merely expressed EBI3-935 in transfected cells and never tested the effects of the molecule in modulation of an inflammatory condition, defeat the novelty of the presently claimed method. Indeed, Devergne et al. are uncertain as to whether the claimed cytokine even acts as a modulator of IL12 activities and teach at page 10, lines 12-15 that "*At present, no data showing direct IL12 antagonist activity are available; EBB/p35 does not affect IL12 induced cell DNA*

synthesis or interferon release in human peripheral blood mononuclear cell assays and it does not bind to the previously identified IL12 receptors." This disclosure coupled with the complete lack of any in vivo data cannot be said to provide the skilled artisan with any reasonable expectation of success at the in vivo application of a potential therapy. In view of the foregoing, it is clear that the disclosure in Devergne et al. amounts to no more than an invitation to experiment and cannot be relied on to support a rejection under 35 U.S.C. §102(b). Accordingly, Applicants submit that this rejection is untenable and should be withdrawn.

At page 10 of the Official Action, the Examiner has rejected claim 17 as allegedly obvious over Devergne et al.
As the Federal Circuit held in Elan, "The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation." Elan Pharm., Inc. v. Mayo Foundation for Medical and Education Research, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003). Applicants submit that for all the reasons mentioned above, it cannot be reasonably maintained that the subject matter of the present claims is anticipated by Devergne et al. Nor can this reference support the obviousness rejection of claim 17. As mentioned above, the disclosure in Devergne et al. is no more than an invitation to test whether EBI3/p35 functions to modulate the immune response. As the Examiner acknowledges at page 10, Devergne et al. fail to specifically recite an autoimmune condition. The Examiner is reminded that it is a well-settled premise in patent law that "silence in a reference is not a proper substitute for adequate disclosure of facts from which a conclusion of obviousness may justifiably follow". In re Burt,

148 U.S.P.Q. 548 (CCPA 1966).

Accordingly, given the deficiencies of Devergne et al. it is clear that the claimed method is patentable over the disclosure in this reference. It necessarily follows, therefore, that the §103(a) rejection of claim 17 based on the disclosure in this reference is improper and should be withdrawn upon reconsideration.

CONCLUSION

In view of the amendments presented herewith and the foregoing remarks, it is respectfully urged that the objections and rejections set forth in the May 19, 2008 Official Action be withdrawn and that this application be passed to issue.

In the event the Examiner is not persuaded as to the allowability of any claim, and it appears that any outstanding issues may be resolved through a telephone interview, the Examiner is requested to call the undersigned agent at the phone number given below.

Respectfully submitted,
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